

CLAIMS

1. An isolated population of CD4⁺ T-cells wherein the population is selected from:

CMRF-35⁺⁺ CD45RO⁺;
CMRF-35⁺ CD45RO⁺;
CMRF-35⁻ CD45RO⁺;
CMRF-35⁺ CD45RO⁻; and
CMRF-35⁻ CD45RO⁻ T-cells.
2. The isolated population of CD4⁺ T-cells of Claim 1 wherein the cells are from a mammalian subject.
3. The isolated population of CD4⁺ T-cells of Claim 2 wherein the mammal is a human.
4. The isolated population of CD4⁺ T-cells of Claim 2 wherein the cells are CMRF-35⁺⁺ CD45RO⁺ cells.
5. The isolated population of CD4⁺ T-cells of Claim 2 wherein the cells are CMRF-35⁺ CD45RO⁺ cells.
6. The isolated population of CD4⁺ T-cells of Claim 2 wherein the cells are CMRF-35⁻ CD45RO⁺ cells.
7. The isolated population of CD4⁺ T-cells of Claim 2 wherein the cells are CMRF-35⁺ CD45RO⁻ cells.
8. The isolated population of CD4⁺ T-cells of Claim 2 wherein the cells are CMRF-35⁻ CD45RO⁻ cells.

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9. The isolated population of CD4⁺ T-cells of Claim 1 or 2 or 3 wherein the cells are derived from a subject with an inflammatory condition.
10. The isolated population of CD4⁺ T-cells of Claim 9 wherein the inflammatory condition is psoriasis.
11. The isolated population of CD4⁺ T-cells of Claim 1 or 2 or 3 wherein the cells are derived from a subject with diabetes.
12. The isolated population of CD4⁺ T-cells of Claim 1 or 2 or 3 wherein the cells are derived from a subject with cancer.
13. The isolated population of CD4⁺ T-cells of Claim 1 or 2 or 3 wherein the cells are derived from a subject with arthritis.
14. The isolated population of CD4⁺ T-cells of Claim 1 or 2 or 3 wherein the cells are derived from a subject with an autoimmune disease.
15. The isolated population of CD4⁺ T-cells of Claim 1 or 2 or 3 wherein the cells are derived from a subject with graft *versus* host disease.
16. An isolated CD4⁺ T-cell wherein the cell is CMRF-35⁺⁺ CD45RO⁺.
17. An isolated CD4⁺ T-cell wherein the cell is CMRF-35⁺ CD45RO⁺.
18. An isolated CD4⁺ T-cell wherein the cell is CMRF-35⁻ CD45RO⁺.
19. An isolated CD4⁺ T-cell wherein the cell is CMRF-35⁺ CD45RO⁻.
20. An isolated CD4⁺ T-cell wherein the cell is CMRF-35⁻ CD45RO⁻.

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21. A method for assessing the immunological potential of a subject said method comprising obtaining a sample from said subject comprising T-cells and subjecting the sample to cell surface discrimination means to determine the presence, absence or level of CD4⁺ T-cells selected from the list consisting of:

CMRF-35⁺⁺ CD45RO⁺;
CMRF-35⁺ CD45RO⁺;
CMRF-35⁻ CD45RO⁺;
CMRF-35⁺ CD45RO⁻; and
CMRF-35⁻ CD45RO⁻ T-cells.

22. The method of Claim 21 wherein the subject is a mammal.

23. The method of Claim 22 wherein the mammal is a human.

24. The method of Claim 23 wherein the subject is depleted of or has an increased number of CMRF-35⁺⁺ CD45RO⁺ T-cells.

25. The method of Claim 23 wherein the subject is depleted of or has an increased number of CMRF-35⁺ CD45RO⁺ T-cells.

26. The method of Claim 23 wherein the subject is depleted of or has an increased number of CMRF-35⁻ CD45RO⁺ T-cells.

27. The method of Claim 23 wherein the subject is depleted of or has an increased number of CMRF-35⁺ CD45RO⁻ T-cells.

28. The method of Claim 23 wherein the subject is depleted of or has an increased number of CMRF-35⁻ CD45RO⁻ T-cells.

29. The method of Claim 23 wherein the subject has an autoimmune disease.

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30. The method of Claim 29 wherein the autoimmune disease is diabetes.
31. The method of Claim 23 wherein the subject has an inflammatory condition.
32. The method of Claim 31 wherein the inflammatory condition is psoriasis.
33. The method of Claim 31 wherein the inflammatory condition is arthritis.
34. A computer program product therefore, for assessing the presence or absence or level of a sub-population of CD4⁺ T-cells said product comprising:-
 - (i) code that receives, as input values, the identity of a reporter molecule associated with a labeled antibody which recognizes one of a CMRF-35 epitope or CD45RO marker;
 - (ii) code that compares said input values with reference values to determine the level of CMRF-35 epitope or CD45RO; and
 - (iii) a computer readable medium that stores the codes.
35. A computer for assessing the presence or absence or level of a sub-population of CD4⁺ T-cells, said computer comprises
 - (i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said machine-readable data comprise input values which identify a reporter molecule associated with a labeled antibody which recognizes one of a CMRF-35 antibody or CD45RO marker;
 - (ii) a working memory for storing instructions for processing said machine-readable data;

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(iii) a central-processing unit coupled to said working memory and to said machine-readable data storage medium, for processing said machine readable data to compare said values to provide an assessment of the identity or level of CMRF-35 epitope or CD45RO; and

(iv) an output hardware coupled to said central processing unit, for receiving the results of the comparison.

36. The isolated population of CD4⁺ T cells of any one of claims 1-4 and 9-16, wherein said CD4⁺ T cells are CMRF-35⁺⁺ CD45RO⁺ CXCR3⁺T cells.

37. The method of any one of claims 21-24 and 29-35, wherein said CD4⁺ T cells are CMRF-35⁺⁺ CD45RO⁺ CXCR3⁺T cells.